

MODEL ANALYSES AND GUIDANCE (MAG) Web Site

User Manual
(Documentation Version 2.0)

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Contents

<i>Introduction</i>	3
<i>MAG home page</i>	3
Figure 1: MAG home page	3
Figure 2: Website Questions / Contact MAG Helpdesk	5
<i>Model Guidance Page:</i>	6
Figure 3: Model Guidance page	6
<i>Model Guidance Parameter Page:</i>	7
Figure 4: Parameter page for model = 'GFS' and region = 'Namer'	7
Figure 5: Parameter Page with forecast hour drop down menu	9
Figure 6: Flash Applet to view the graphics in a loop	10
Figure 7: Graphics page for a selected forecast hour	11
<i>Observations and Analyses Page:</i>	12
Figure 8: Observations and Analyses Page	12
<i>Observations and Analysis page for UAIR</i>	13
Figure 9: Observations and Analyses page for UAIR	13
<i>UAIR parameter page:</i>	14
Figure 10: UAIR page for region 'Namer'	14
Figure 11: Upper Air graphics page	15
<i>Observations and Analysis page for Skew-t Plots</i>	16
Figure 12: Obs/Analyses page for Skew-t plots	16
<i>Skew-T Parameter Page</i>	17
Figure 14: Skew-t plot	18
Figure 15: Skew-T graphics	19
Figure 16: Station table for Skew-T graphics	19
<i>Observations and Analysis page for RTMA(Real-time Mesoscale Analysis Model) and RTMA-GUAM</i> ..	20
Figure 17: Observations and Analyses page for "RTMA"	20
<i>RTMA/RTMA-GUAM Parameter page</i>	21
Figure 18: RTMA page	21
Figure 19: RTMA graphics	22
<i>Tropical Guidance Page</i>	23
Figure 20: Tropical Guidance page	23
<i>Tropical Guidance Parameter page:</i>	23
Figure 21: Tropical Guidance Parameter page	24
Figure 22: Applet page for Tropical Guidance parameter	25
Figure 23: Tropical Guidance page	26

Introduction

The Model Analysis and Guidance website displays the graphical output of National Weather Service (NWS) Numerical Weather Prediction guidance. The website offers a professional and interactive interface, which showcases the NWS observational database and suite of numerical model analysis and guidance products.

In an effort to respond to user needs, to protect life and property, and support the nation's growing need for environmental information, a streamlined graphical approach displaying products in making forecasts serves not only NWS Offices but also the Private and Public Sectors.

The Model Analyses and Guidance (MAG) website is available at

<http://mag.ncep.noaa.gov>

MAG home page

The screenshot shows the NCEP Central Operations Model Analyses and Guidance (MAG) website. The header includes the NOAA logo and the text 'National Weather Service NCEP Central Operations'. A navigation bar at the top has links for 'Home', 'News', 'Organization', and a 'Search' box. The main content area is titled 'Model Analyses and Guidance' and includes a message: 'Release candidate 2.0 currently under test.' Below this is a link to 'Read Latest Information and News'. A section titled 'Select Model Guidance, Observations and Analyses, or Tropical Guidance' features three tabs: 'MODEL GUIDANCE', 'OBSERVATIONS AND ANALYSES', and 'TROPICAL GUIDANCE'. The 'MODEL GUIDANCE' tab is active, displaying a world map. The left sidebar contains a list of links for 'Local forecast by "City, St"', 'Search NCEP', 'NCEP Quarterly Newsletter', 'Current Hazards', 'Watches/Warnings', 'Outlooks', 'National', 'Current Conditions', 'Observations', 'Satellite Images', 'Radar Imagery', 'Lakes & Rivers', 'Space Weather', 'Unified Surface', 'Analysis', 'Northern Hemisphere Surface Analysis', 'Product Loops', 'Environmental Models', 'Product Info', 'Current Status', 'Model Analysis & Guidance', 'Forecasts', 'Current', '6 to 10 Day', 'Aviation', 'Hurricane', 'Marine', 'Tropical Marine', 'Fire Weather', 'Forecast Maps', 'Climate', 'Climate Prediction', 'Climate Archives', 'Weather Safety', 'Storm Ready', and 'NOAA'. The bottom section includes a 'USER'S GUIDE' with links to 'Frequently Asked Questions', 'Upcoming Changes', and 'Training', along with a link to 'More information is available in the Product Description Document' and a link to the 'Legacy Model Analysis and Forecast webpage'.

Figure 1: MAG home page

The main index page of the website (Figure 1) presents the user with a choice of three categories listed below:

- **Model Guidance** : provides access to the National Weather Service's (NWS) numerical model output including both regional and global models
- **Observations and Analyses** : provides access to the Real-Time Mesoscale Analysis(RTMA) products, Upper Air(UAIR) Height Plots, and Upper Air Sounding Plots (Skew T plots)
- **Tropical Guidance** : provides access to the National Weather Service's Tropical Cyclone model output when tropical cyclones exist over the Atlantic or Pacific Oceans

The user can obtain a description for each category by hovering over them. A tool tip appears describing the category.

When the user clicks on the map, an information pop up appears alerting the user to "Select Model Guidance, Observations and Analyses, or Tropical Guidance".

The users are provided with information for the following documents just below the world map:

- Users Guide
- Frequently Asked Questions
- Upcoming Changes
- Training
- Product Description Document

The Latest Information and News link has been moved to the top of the page to allow easier access to the newest information without scrolling to the bottom of the page.

- Latest Information and News

The Message of the Day box contains information about the next scheduled upgrade or any issues with the site.


Model Analyses and Guidance

Release candidate 2.0 currently under test.


[Read Latest Information and News](#)

Figure 2: Message of the Day Box

Users can send comments and suggestions by clicking on the "Website Questions" link at the bottom left corner of the main page. The user will be redirected to a form as shown in Figure2.



National Weather Service
NCEP Central Operations

[weather.gov](#)


[Home](#)
[News](#)
[Organization](#)
[Search](#)

Local forecast by
"City, St"

Search NCEP

Current Hazards
Watches/Warnings
Outlooks
National

Current Conditions
Observations
Satellite Images
Radar Imagery
Lakes & Rivers
Space Weather


Environmental
Models
Product Info
Current Status
Model Analyses
& Forecasts

Forecasts
Current
6 to 10 Day
Aviation
Hurricane
Marine
Tropical Marine
Fire Weather

Climate
Climate Prediction
Climate Archives

NOAA
Central Library
Photo Library
Public Affairs
Employment
Image of the Day

Contact MAG
Helpdesk



NCEP Home > [NCO Home](#) > Mail Webmaster

E-Mail the Model Analyses and Guidance Helpdesk

Please enter any comments you might have in the space below, and press the "Send comments" button when you are finished.

NOTE: Submission of name and/or email address is optional. However, without your complete e-mail address we cannot provide a reply.

Your Full Name:

Your E-mail Address:

Please enter any comments you might have in the space below, making sure to include any web addresses you are referring to in your message:

NOAA/ National Weather Service
National Centers for Environmental Prediction
5200 Auth Road
Camp Springs, Maryland 20746
NCEP Internet Services Team
Page last modified: 6/7/10 1:14 PM

Disclaimer
Credits
Glossary

Privacy Policy
About Us
Career Opportunities

Figure 3: Website Questions / Contact MAG Helpdesk

Model Guidance Page:

The user arrives on this page by clicking on the ‘Model Guidance’ category from the main index page. (See Figure 4)

- The default Model Area is North America (NAMER)
 - Initially the seven model types available for the North America Region are available for selection.
 - Selecting another Model Area, resets the available model types available.
- Select the model type of choice from the model type list
- Click on the button ‘Reset Selection’ to clear all choices.
- Click on the ‘Back’ button to go back to previous page.
- Click on the ‘Home’ to return to the main index page.
- To get a brief description of any of the models/regions, hover over the mode/region names, and a tool tip will appear with a description.

After the user has made the selection for Model and Region, the Parameter page (see Figure 5) for the chosen model/region is displayed.

Back

Model Guidance

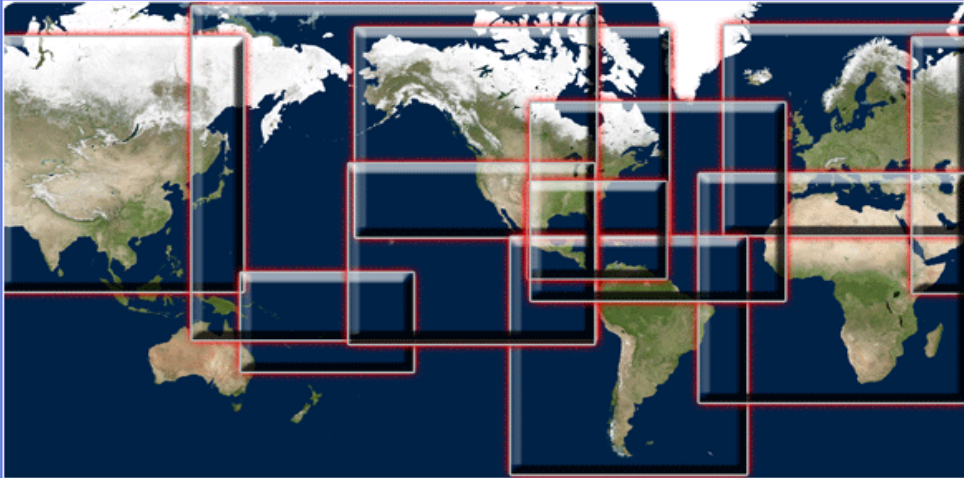
Home

Reset Selection

Choose a model

Model Area	NAMER	SAMER	AFRICA	NPAC	EPAC	WNATL
	ATLANTIC	POLAR	ATLPAC	EUS	WUS	ALASKA
	EUROPE	ASIA	SPAC			

Model Type	GFS	GEFS-SPAG	WWS	HRW-RMM-EUS	HRW-ARW-EUS	POLAR
	NAM	GEFS-MNSPRD	WWS-ENP	HRW-RMM-WUS	HRW-ARW-WUS	NAEFS
	RUC	SREF	WWS-VINA	HRW-RMM-AK	HRW-ARW-AK	



More information is available in the [Product Description Document](#)

Figure 4: Model Guidance page

Model Guidance Parameter Page:

The user is presented with the parameter page after the Model and Region are chosen from the Model Guidance page. In this section, the Parameter Page is presented after the user chooses a model (i.e. GFS) and region (i.e. Namer).

The Parameter Page presents the user with

- The parameter names available for a selected Model and Region.
- The available model cycles. Note: the cycles are displayed with the latest cycle as the default and is displayed on the right most cell and is highlighted in white
- The available forecast hours will be displayed in a row and column format once the parameter is chosen (see Figure 6).
- Loop option choices are in the right most column, these range from an animation of all available sequential forecast guidance times, to multiple day(s) loops.

[Back](#)[Model Guidance](#)[Home](#)

GFS

North America - US Canada and northern Mexico

Available Model Cycles:

	06/14/2011 06UTC	06/14/2011 12UTC	06/14/2011 18UTC	06/15/2011 00UTC		
PRECIP PARMS	precip_p03	precip_p06	precip_p12	precip_p24	precip_p36	precip_p48
	precip_p60	precip_ptot				
SFC- LAYER PARMS	1000_500_thick	1000_850_thick	10m_wnd_precip	850_700_thick	850_temp_mslp_precip	
UPPER AIR PARMS	200_wnd_ht	250_stream	250_wnd_ht	300_wnd_ht	500_rh_ht	500_vort_ht
	700_rh_ht	850_pw_ht	850_rh_ht	850_stream	850_temp_ht	850vor_500ht_200wd
	850_vort_ht					
FOUR PANEL CHARTS	200_wnd_ht	300_wnd_ht				
	500_vort_ht	850_vort_ht				
	1000_500_thick	700_rh_ht				
	850_temp_ht	10m_wnd_precip				

Default latest model cycle

Figure 5: Parameter page for model ='GFS' and region = 'Namer'

To view the graphics for any parameter:

- Select the
 1. parameter name
 2. model cycle (default is last cycle available)
 3. forecast hour or loop animation

The user selection is highlighted in white.

Note: The forecast hours matrix lists all the forecast hours available for the selected parameter of the selected model. The Precip_p03 parameter will contain choices for values up to 120 hours.

- Once all the above selections are made the page redirects to the graphics display page. If the forecast hour is 'Loop All' or "1/2/3/4/5/... Day loop", then the user is presented with a Flash animation applet page that loops through all the images for all forecast hours as shown in Figure 7. If a distinct forecast hour is chosen, the user is shown a gif image as seen in Figure 8.

[Back](#)

Model Guidance

[Home](#)

GFS

North America - US Canada and northern Mexico

Image Size

Large (1280 x 1024) ☐ Medium (1024 x 768) ☒ Small (640 x 480) ☐

Available Model Cycles:

06/14/2011 06UTC		06/14/2011 12UTC		06/14/2011 18UTC		06/15/2011 00UTC			
PRECIP PARMS	precip_p03	precip_p06	precip_p12	precip_p24	precip_p36	precip_p48			
	precip_p60	precip_ptot							
SFC- LAYER PARMS	1000_500_thick	1000_850_thick	10m_wnd_precip	850_700_thick	850_temp_mslp_precip				
UPPER AIR PARMS	200_wnd_ht	250_stream	250_wnd_ht	300_wnd_ht	500_rh_ht	500_vort_ht			
	700_rh_ht	850_pw_ht	850_rh_ht	850_stream	850_temp_ht	850vor_500ht_200wd			
	850_vort_ht								
FOUR PANEL CHARTS	200_wnd_ht	300_wnd_ht							
	500_vort_ht	850_vort_ht							
	1000_500_thick	700_rh_ht							
	850_temp_ht	10m_wnd_precip							
FORECAST HOURS	000								Loop All
	003	006	009	012	015	018	021	024	1 Day
	027	030	033	036	039	042	045	048	2 Day
	051	054	057	060	063	066	069	072	3 Day
	075	078	081	084	087	090	093	096	4 Day
	099	102	105	108	111	114	117	120	5 Day
	123	126	129	132	135	138	141	144	6 Day
	147	150	153	156	159	162	165	168	7 Day
	171	174	177	180	192				8 Day
	204								

Default latest model cycle

Figure 6: Parameter Page with forecast hour matrix

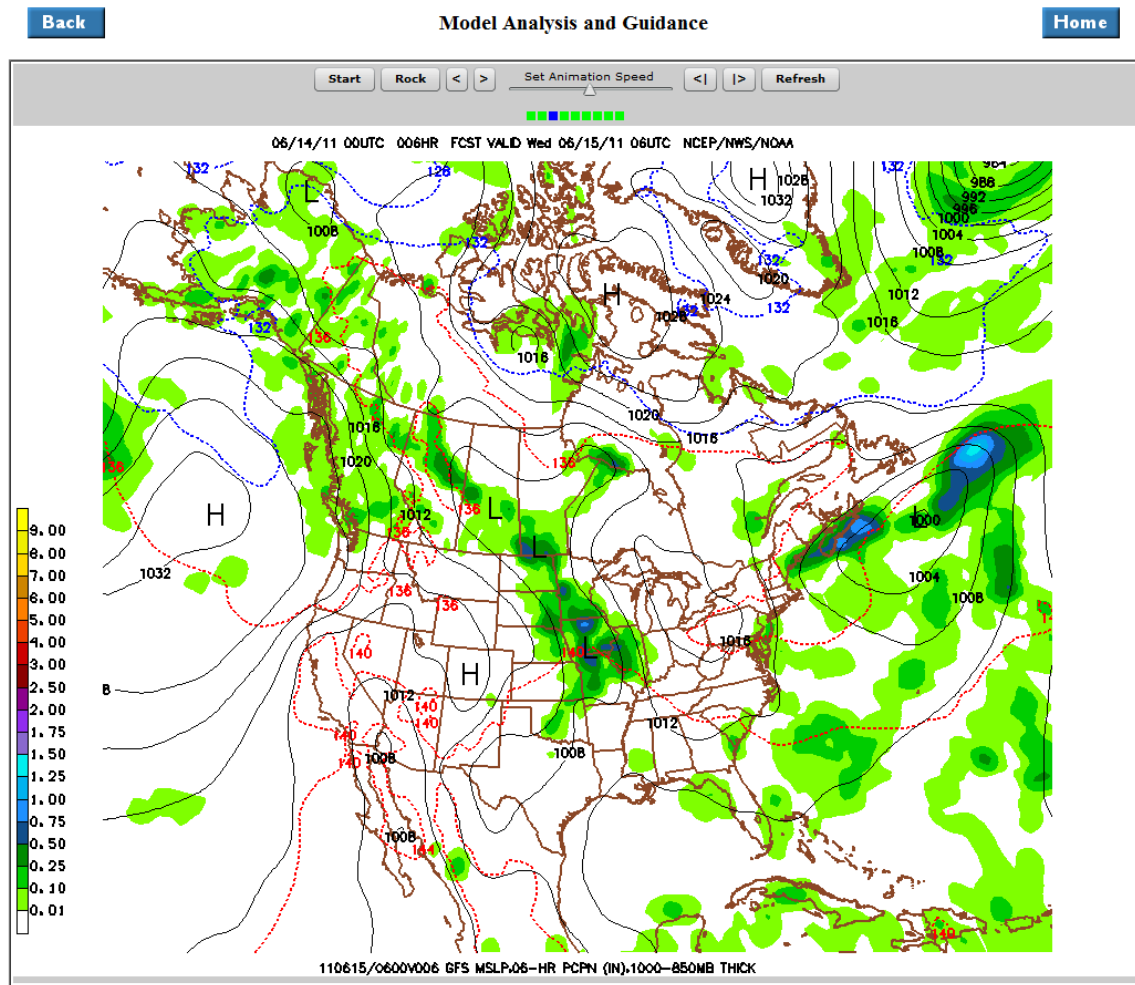


Figure 7: Flash Applet to view the graphics in a loop

The Flash animation applet (FLAniS) used for looping through the images was developed by: Tom Whittaker, University of Wisconsin-Madison Space Science & Engineering Center (SSEC).

More information about the software can be found at <http://www.ssec.wisc.edu/flanis>.

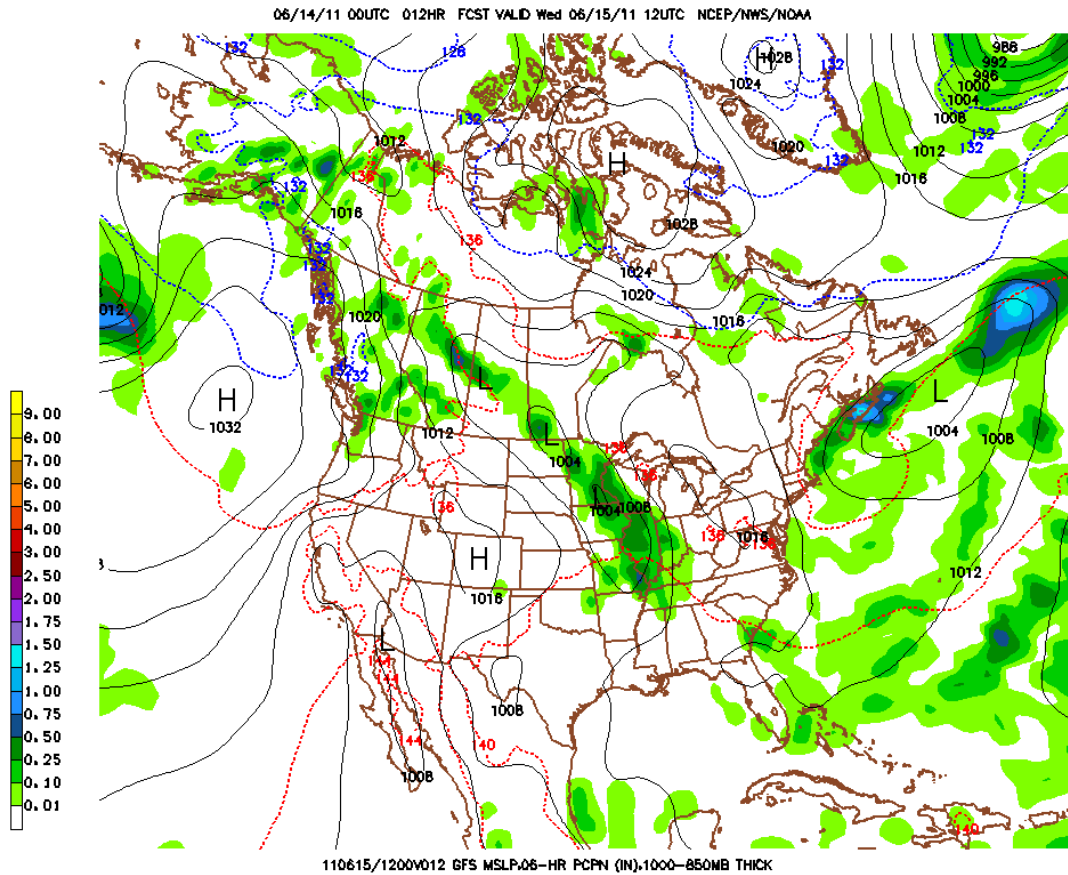
[<< Previous](#)[Zoom In](#) | [Normal](#) | [Zoom Out](#)[Next >>](#)

Figure 8: Graphics page for a selected forecast hour

The user can zoom-in/zoom-out or choose a Normal (original) size of the image by pointing to the “Zoom In | Normal | Zoom Out” links, provided just above the image.

The static URL to view the image is provided just below the title of the page.

Previous and Next controls on either side of the top of the page display the next or previous time period’s image with relation to the current image. Keys ‘J’ and ‘K’ perform the same function as the Previous and Next controls without use of the mouse.

Observations and Analyses Page:

The user can choose the “Observations and Analyses” category from the MAG home page to get to the Observations and Analyses page

Back

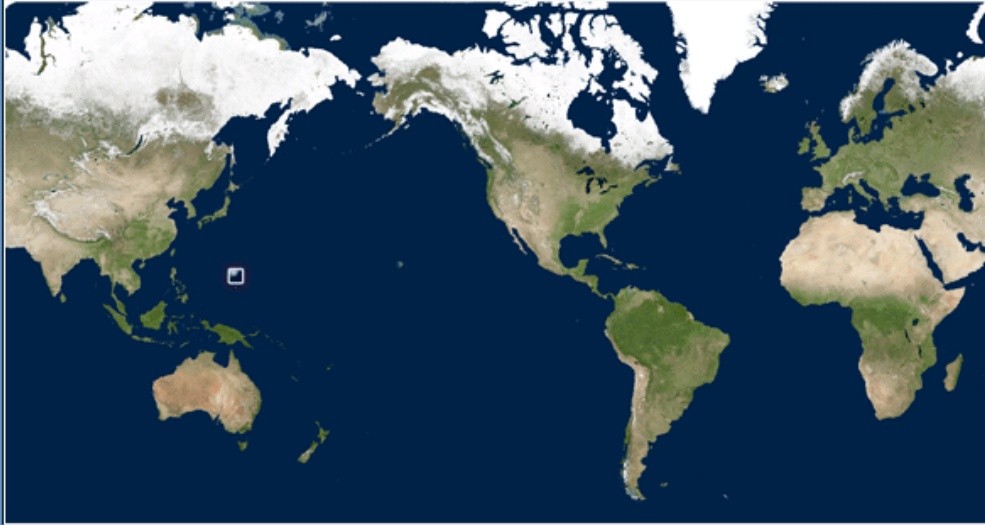
Observations and Analyses

Home

Reset Selection

To view Observations or RTMA images, select a Type and Area

Obs/Analysis Type	UAIR	SKEWT	RTMA	RTMA-GUAM
Obs/Analysis Area	NAMER	SAMER	AFRICA	NPAC
	CANADA	ALASKA	WNATL	SWREGION
	CA	NC_SC	CO	ND_SD
	MIDWEST	GULFCOAST	MIDATL	MI
	MT	NEWENG	OHVALLEY	TX
	PACNW	WI	GUAM	FL



More information is available in the [Product Description Document](#)

Figure 9: Observations and Analyses Page

This page (see Figure 9) provides the user with three types for Obs/Analyses :

- UAIR (Upper Air)
- SKEWT(Skew-T plots)
- RTMA(Real Time Mesoscale Analysis)
- RTMA-GUAM(Real Time Mesoscale Analysis for the Guam region)

Observations and Analysis page for UAIR

When the user selects UAIR, the regions corresponding to Upper Air are highlighted in white and the other regions are disabled and greyed out as shown in Figure 9.

Back

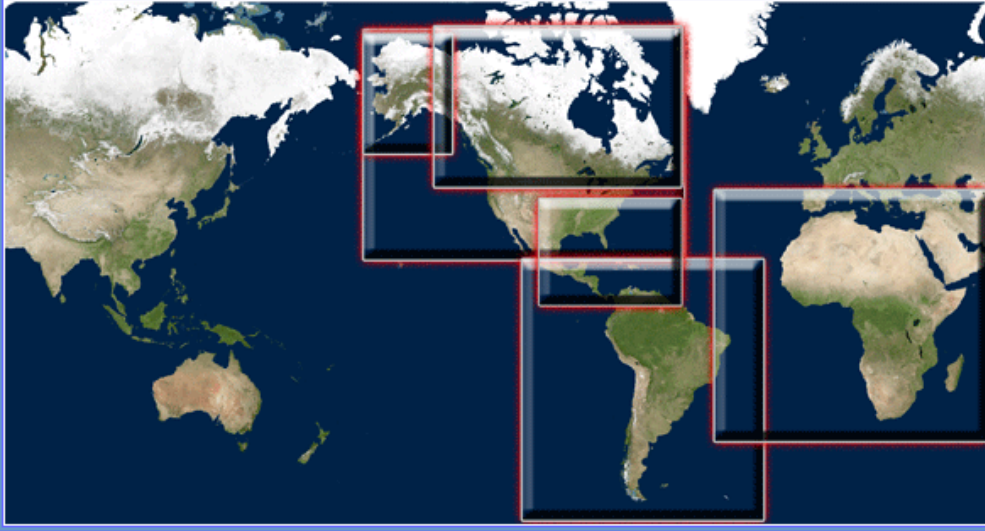
Observations and Analyses

Home

Reset Selection

Choose an area

Obs/Analysis Type	UAIR	SKEWT	RTMA	RTMA-GUAM
Obs/Analysis Area	NAMER	SAMER	AFRICA	NPAC
	CANADA	ALASKA	WNATL	SWREGION
	CA	NC_SC	CO	ND_SD
	MIDWEST	GULFCOAST	MIDATL	MI
	MT	NEWENG	OHVALLEY	TX
	PACNW	WI	GUAM	FL



The National Weather Service (NWS) is conducting a survey on the Real-Time Mesoscale Analysis (RTMA) products. To take the survey please [click here](#).

For more information about the RTMA products please refer to the [RTMA Product and Service Description Document](#).

More information is available in the [Product Description Document](#)

Figure 10: Observations and Analyses page for UAIR

To view the Upper Air Parameters, select a region of choice.

Note : The user can also choose a region first, and the corresponding Obs/Analysis Type is highlighted in white. The other types are disabled.

UAIR parameter page:

In this section, the Upper Air parameter page is available when the user selects North America (Namer), South America (Samer), Africa, Canada, Alaska, or Western Atlantic (WNATL) (see Figure10). The page presents all the available model cycles in one row. The next row presents the available mandatory levels in millibars.

Back

Observations and Analyses


Home

UAIR
North America - US, Canada, and northern Mexico

Available Cycles:

03/01/2011 18UTC	03/02/2011 00UTC	03/02/2011 06UTC	03/02/2011 12UTC
------------------	------------------	------------------	------------------

LEVEL	1000	925	850	700	500	400	300	250	200	150	100
-------	------	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----



Default latest model cycles and all available forecast hours.

Figure 11: UAIR page for region 'Namer'

- Select any 'Available Model Cycles'. Note: the default is always highlighted in white and is displayed in the right most cell.
- Select a mandatory level.
- The user is presented with the graphic similar to what is shown in Figure 12.

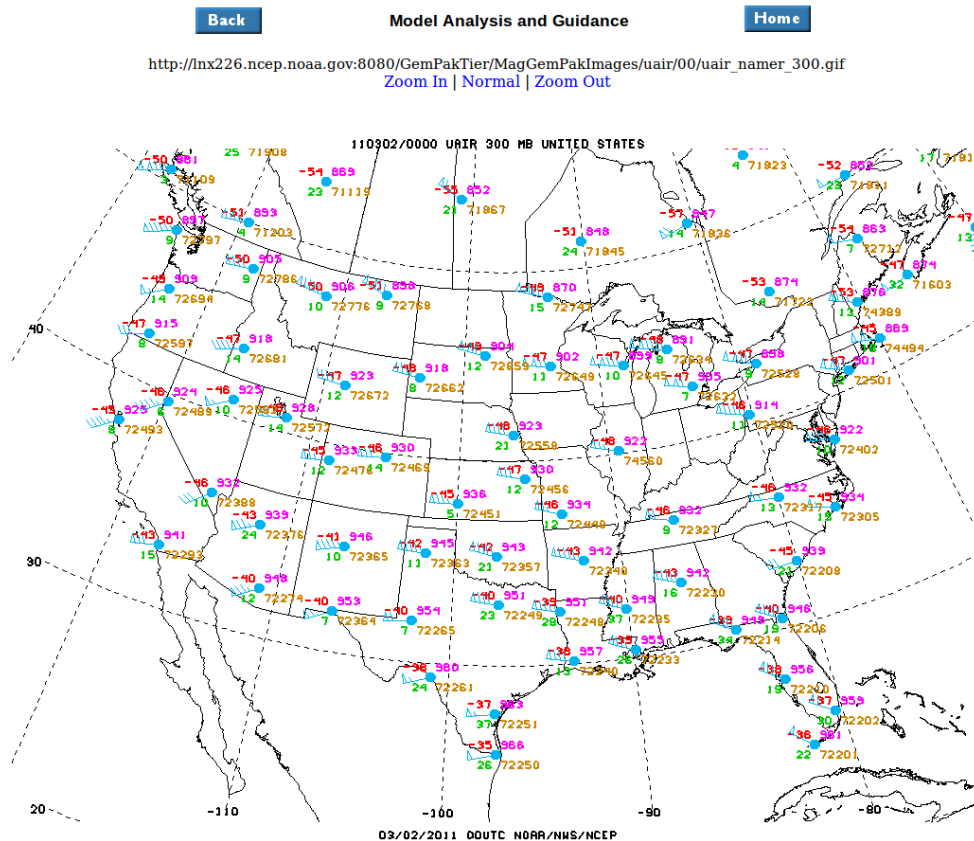


Figure 12: Upper Air graphics page

The user can zoom-in/zoom-out or choose a Normal size of viewing the image by pointing to the “Zoom In | Normal | Zoom Out “ links provided just above the image.

The static URL to view the image is provided just below the title of the page.

Observations and Analysis page for Skewt-t Plots

This section describes the use of the MAG application to view Skew-t plots. Select the Observations/Analyses Type “SKEWT” from the Observations and Analyses page (See Figure 13)

Back

Observations and Analyses

Home

Reset Selection

Choose an area

Obs/Analysis Type	UAIR	SKEWT	RTMA	RTMA-GUAM
Obs/Analysis Area	NAMER	SAMER	AFRICA	NPAC
	CANADA	ALASKA	SWREGION	CA
	NC_SC	CO	ND_SD	MIDWEST
	GULFCOAST	MIDATL	MI	MT
	NEWENG	OHVALLEY	TX	PACNW
	WI	WNATL	GUAM	FL

More information is available in the [Product Description Document](#)

Figure 13: Obs/Analyses page for Skew-t plots

The regions that correspond to the SKEWT type are highlighted in white. Select a region.

Skew-T Parameter Page

Figure 14 below shows the Skew-t page for region South America (Samer). The page presents the available cycles, with the latest cycle displayed in the right most cell highlighted in white.

Select the desired cycle, and the user is presented with the skewt-t available stations map as shown in Figure 15.



Figure 14: Skew-T page for region “SAMER”

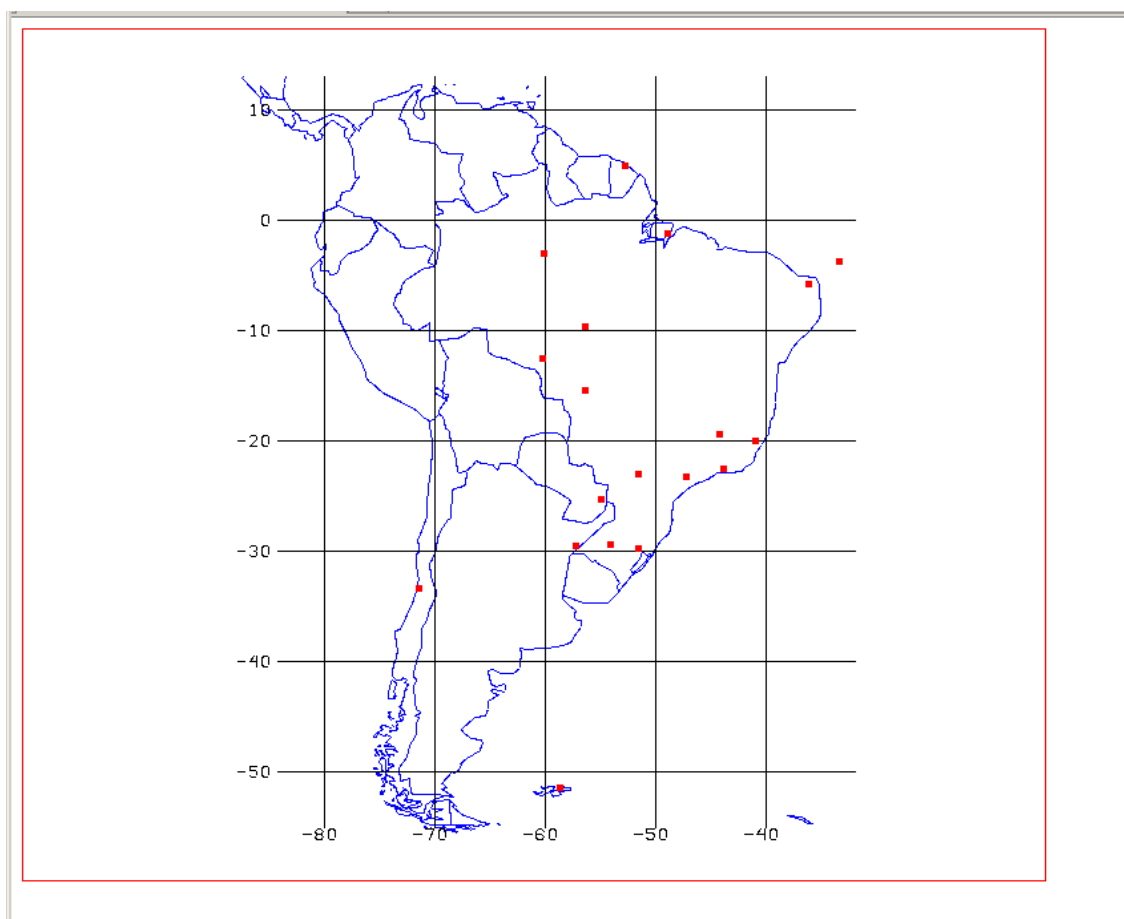


Figure 15: Skew-t available stations map

The user can click on the red dots, which represent various stations, to view the graphic. The user is presented with skew-t graphics as shown in Figure 16.

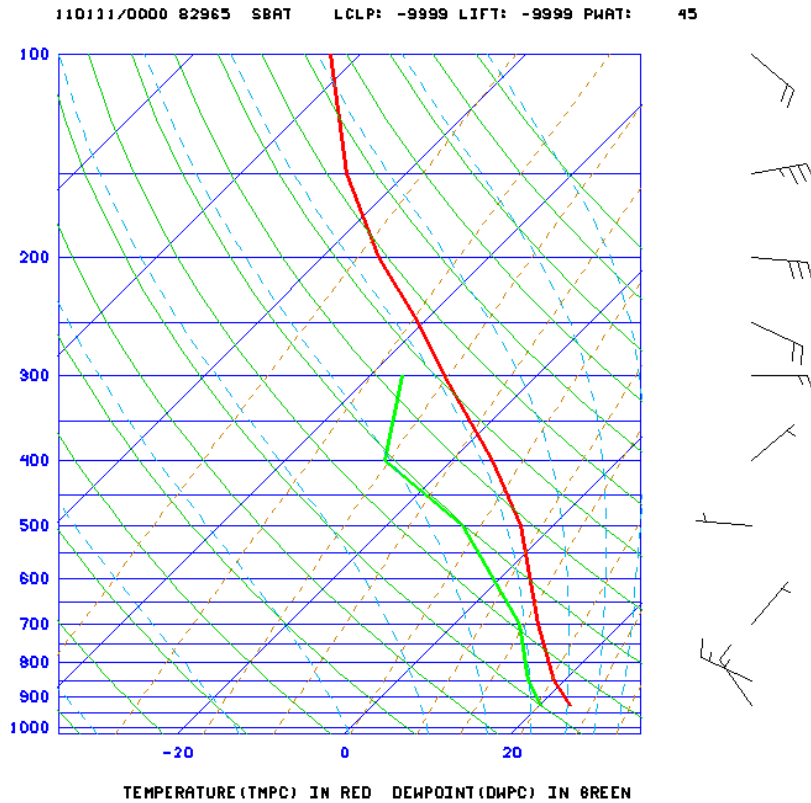


Figure 16: Skew-T graphics

Note: The display of Skew-T graphics is rendered differently in Internet Explorer. When the user chooses a desired cycle, they are presented with a station table (Figure 17) instead of a regional map with red dots representing the various stations.

Upper air skew-T diagrams - 20110111 00 UTC

ID	Latitude	Longitude	Country code	WMO block/station
EGYP	-51.82	-58.45	FK	888890
SBPA	-30.00	-51.18	BZ	839710
SBUG	-29.78	-57.03	BZ	839280
SBSM	-29.72	-53.70	BZ	83937
SBFL	-27.67	-48.55	BZ	838990
SBFI	-25.52	-54.58	BZ	838270
SBMT	-23.52	-46.63	BZ	83779
SBLO	-23.33	-51.13	BZ	837680
SBGL	-22.82	-43.25	BZ	837460
SBCG	-20.47	-54.67	BZ	836120
SBVT	-20.27	-40.28	BZ	836490
83566	-19.63	-43.58	BZ	83566
83525	-18.88	-48.23	BZ	83525
SBBR	-15.87	-47.93	BZ	833780
SBCY	-15.65	-56.10	BZ	833620
SBVH	-12.70	-60.10	BZ	832080
SBAT	-9.87	-56.10	BZ	829650
SBNT	-5.92	-35.25	BZ	825990
SBMN	-3.15	-59.98	BZ	823320
SBBE	-1.38	-48.48	BZ	821930
OOO	4.83	-52.37	FG	81405

Figure 17: Station table for Skew-T graphics

The user can click on the station code to view the skew-T graphic.

Observations and Analysis page for RTMA(Real-time Mesoscale Analysis Model) and RTMA-GUAM

When the user selects the 'RTMA' Obs/Analyses type from the Observations and Analyses page, the corresponding regions available for RTMA are highlighted in white. The remaining regions are disabled. When the user selects a region, they are presented with the RTMA page as shown in Figure 19.


RTMA-GUAM is another model type provided specifically for the Guam region. The user interface provided for the Guam region is the same as other regions for the RTMA.

Back
Observations and Analyses
Home

Reset Selection

Choose an area

Obs/Analysis Type	UAIR	SKEWT	RTMA	RTMA-GUAM
Obs/Analysis Area	NAMER	SAMER	AFRICA	NPAC
	CANADA	ALASKA	SWREGION	CA
	NC_SC	CO	ND_SD	MIDWEST
	GULFCOAST	MIDATL	MI	MT
	NEWENG	OHVALLEY	TX	PACNW
	WI	WNATL	GUAM	FL



More information is available in the [Product Description Document](#)

Figure 18: Observations and Analyses page for “RTMA”

RTMA/RTMA-GUAM Parameter page

The RTMA page presents the user with the available cycles with the default being latest cycle which is highlighted in white and is displayed in the right most cell as shown in Figure 19. The available Surface Parameter names are displayed above the map. When the user selects one of the parameters, the product image is displayed as shown in Figure 20.



Figure 19: RTMA page

http://mx226.ncep.noaa.gov:8080/GemPakTier/MagGemPakImages/rtna/15/rtna_co_000_2m_temp.gif
[Zoom In](#) | [Normal](#) | [Zoom Out](#)

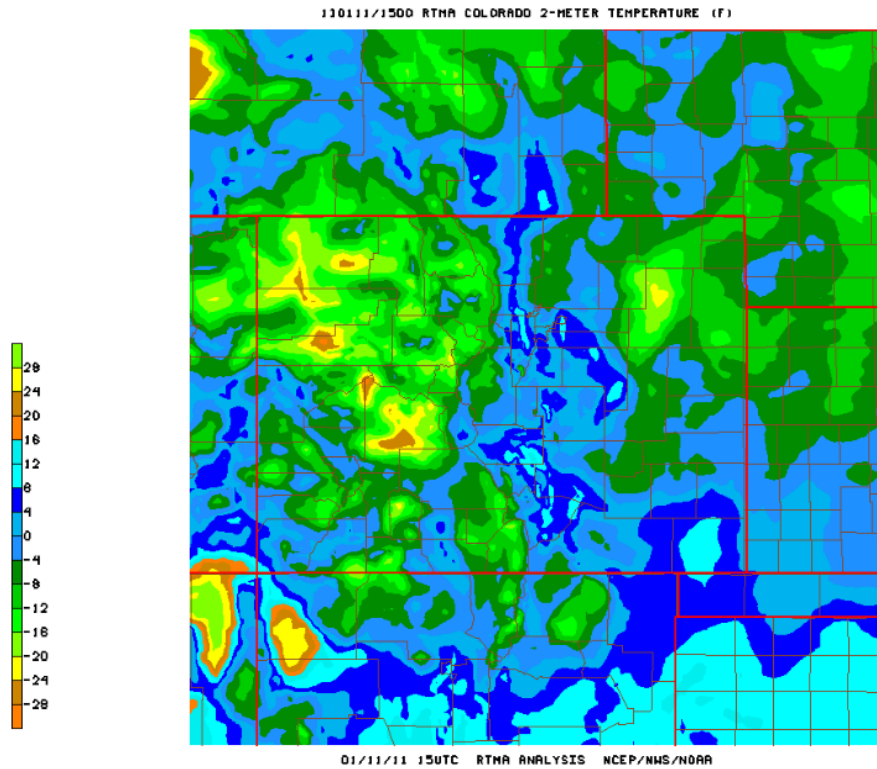


Figure 20: RTMA graphics

The user can zoom-in/zoom-out or choose a Normal size of viewing the image by pointing to the “Zoom In | Normal | Zoom Out “ links provided just above the image.

The static URL to view the image is provided just below the title of the page.

Tropical Guidance Page

The Tropical Guidance Page displays the available Model type and the Storm name as shown in Figure 21. When the user selects a model the corresponding storm name is highlighted in white.

After the users select the desired storm name, then they are directed to the Tropical Guidance parameter page as shown in Figure 22.

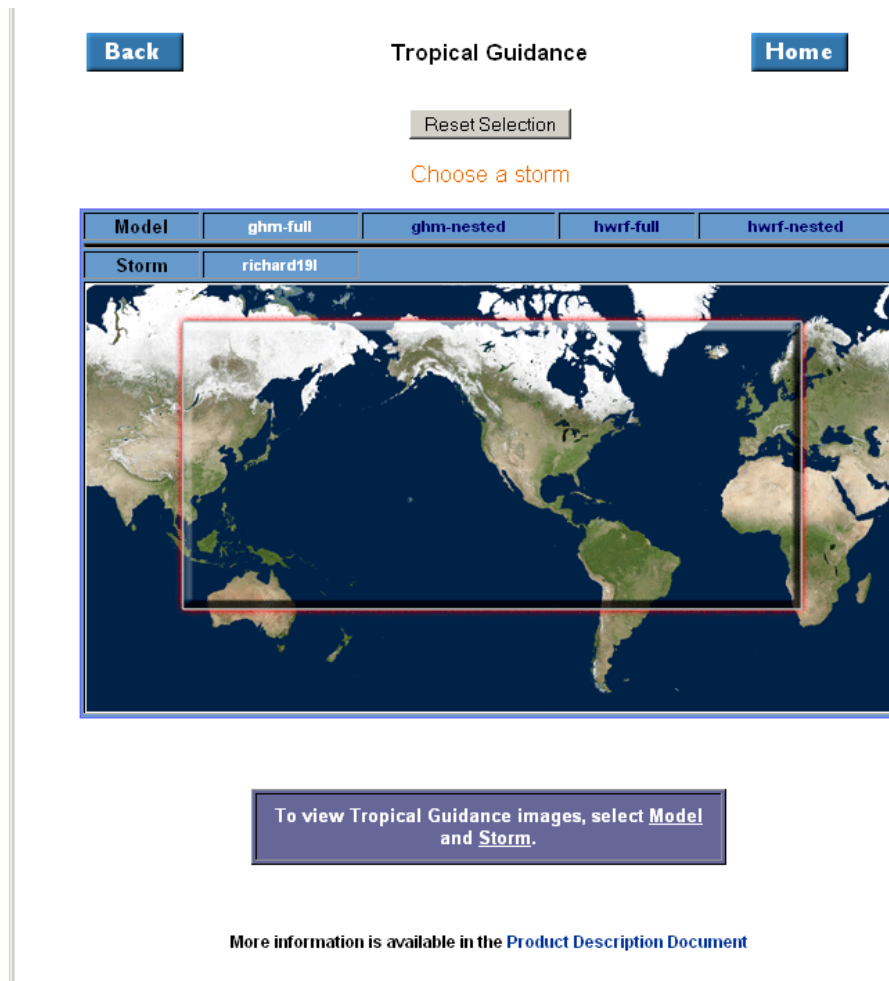


Figure 21: Tropical Guidance page.

Tropical Guidance Parameter page:

This page presents the user with:

- The parameter names available for a selected Model and Storm name.
- The available model cycles. Note: the cycles are displayed with the latest cycle as the default and is displayed on the right most cell and is highlighted in white
- The available forecast hours will be displayed in a row and column format once the parameter is chosen (see Figure 22).
- Loop option choices are in the right most column, these range from an animation of all available sequential forecast guidance times, to multiple day(s) loops.

Back

Tropical Guidance

Home

ghm-full

beatriz02e

Available Model Cycles:

06/20/2011 18UTC

06/21/2011 00UTC

06/21/2011 06UTC

06/21/2011 12UTC

SFC-LAYER PARMS

mslp_35wnd

UPPER AIR PARMS

200_vort_ht

500_rh_omega

500_vort_ht

700_vort_ht

850_temp_precip

850vor_500ht_200wd

850_vort_ht

FORECAST HOURS

000

006

012

018

024

030

036

042

048

Loop All

1 Day

2 Day

Default latest model cycle

Figure 22: Tropical Guidance Parameter page

To view the graphics for any parameter:

- Select the
 - Model cycle
 - Forecast hour
 - Parameter name

User selection is highlighted in white.

- Once all the above three selections have been made the page automatically redirects to the graphics display page. If the forecast hour is ‘Loop All’ or “1/2/3/... Day loop”, then the user is presented with a Flash based applet page that loops through all the images for all forecast hours as shown in Figure 23. If a distinct forecast hour is chosen from the drop down list, the user is shown a gif image.



When there are no active storms the page will be displayed as shown below in Figure 21.

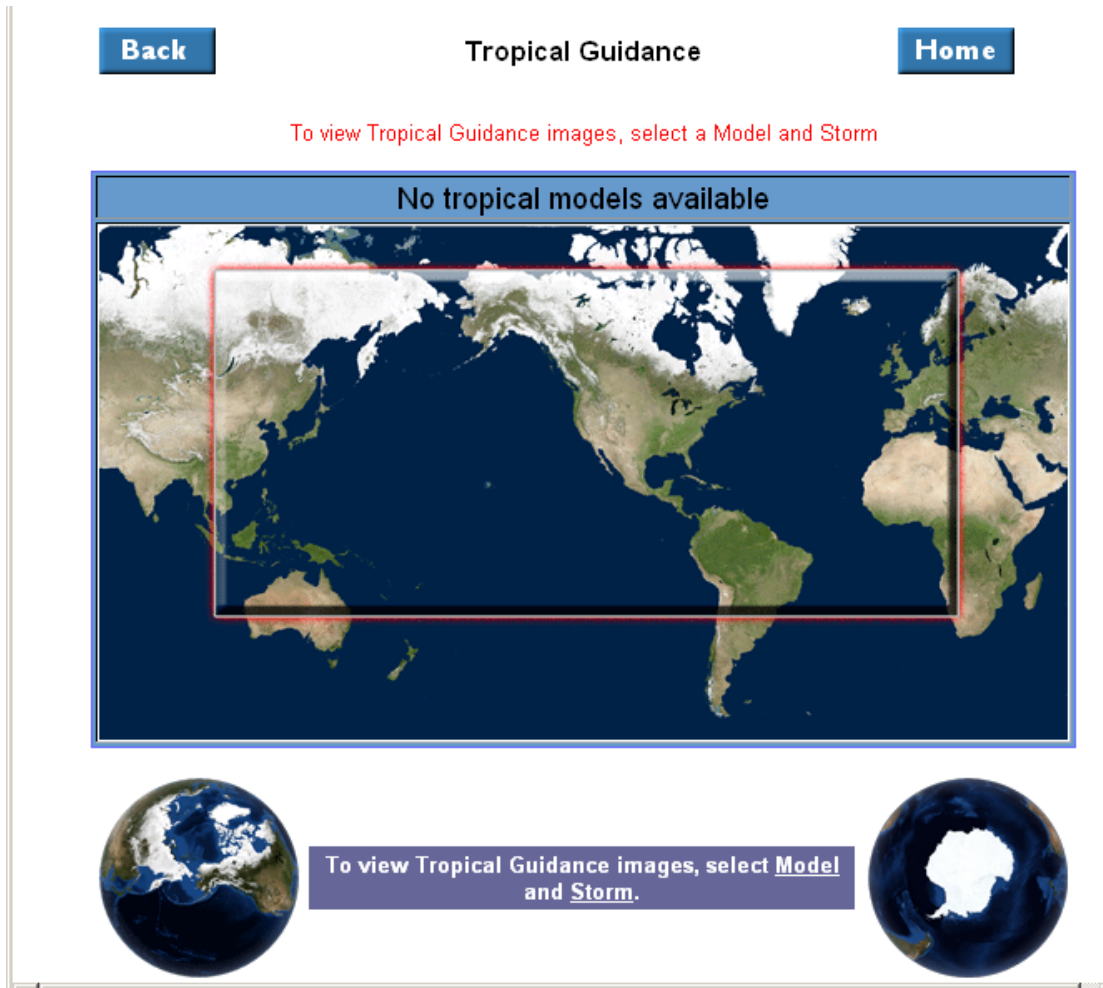


Figure 24: Tropical Guidance page